Abstract

A control device for a permanent magnet synchronous motor includes: an inverter 9 for converting inputted DC voltage

5   into AC voltage of variable-voltage and variable-frequency, and driving a motor 14 with the AC voltage; a speed controller 22 for generating, in accordance with a speed instruction signal, a q-axis current component orthogonal to the magnetic field of the motor 14; a loss calculating means 50 for

10   calculating a loss by summing a copper loss and an iron loss in the motor 14; a d-axis current generating means 52 for generating, in accordance with the value that is the motor's rated loss decreased by the loss, a d-axis current instruction signal to flow into the motor 14; and a

15   resistor-on-judgment unit 58 for judging, from the DC voltage, whether or not the motor 14 operates in its recovery state and activating the d-axis current generator 52 while in the recovery state.